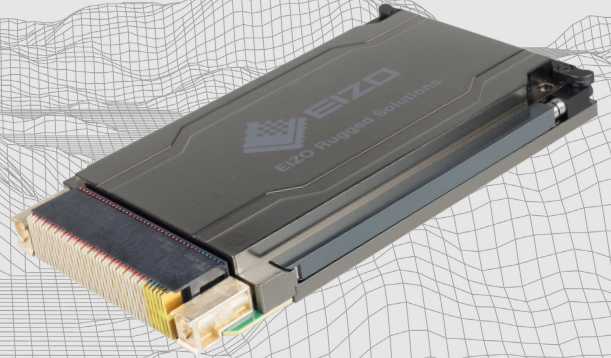


3U VPX Single Board Computer Powered by the NVIDIA Jetson Thor SoM with NVIDIA Blackwell Architecture.



SINGLE BOARD COMPUTER

NVIDIA IGX Thor platform
NVIDIA IGX T5000 module

AI-ACCELERATED COMPUTING

Features NVIDIA Blackwell Architecture; up to 2,070 FP4 TFLOPS of AI performance

HIGH-SPEED I/O INGEST

Supports 12G-SDI, USB 3.2, DisplayPort™, and 25GbE Ethernet

SOSA® Aligned 3U OpenVPX Single-Board Computer Powered by NVIDIA Jetson IGX T5000 Module

The Condor™ T5-IOX is a rugged, high-performance 3U VPX single board computer powered by the NVIDIA® Jetson Thor™ platform. Leveraging the NVIDIA IGX T5000 module, the Condor T5-IOX 3U VPX is built for demanding tactical-edge and autonomous system applications, offering robust multi-sensor ingest and processing capabilities.

Powered by the NVIDIA Blackwell architecture, the Jetson Thor platform delivers breakthrough performance for generative AI, autonomy, and advanced sensor processing applications. The architecture combines a Blackwell GPU featuring NVIDIA CUDA Cores and transformer engine technology with an Arm® Neoverse®-V3AE CPU to support low-latency decision-making at the tactical edge. Supporting up to 128 GB of LPDDR5X memory, 2,560 CUDA® cores, and up to 2,070 FP4 TFLOPS of AI performance, the platform enables deployment of sophisticated AI models including large language models (LLMs), text-to-speech (TTS), and vision-language-action (VLA) applications. By combining a high-performance CPU with an NVIDIA Blackwell GPU, the Condor T5-IOX delivers an optimized heterogeneous computing architecture that accelerates AI inference, sensor processing, and real-time edge applications.

Supporting four 12G-SDI video inputs, DisplayPort output, USB 3.2, USB 2.0, and dual RS-232 interfaces, the Condor T5-IOX enables high-bandwidth sensor connectivity and real-time data ingestion, providing the foundation for advanced AI processing and multi-sensor fusion at the edge. The Condor T5-IOX features high-speed networking with 4x 25GbE and support for GPUDirect RDMA over Converged Ethernet (RoCE), enabling low-latency data movement between sensors, processing elements, and storage. These capabilities simplify system integration while accelerating data pipelines for time-sensitive mission applications. In addition, the NVIDIA Jetson Thor SoM integrates dedicated GPU hardware accelerators for multi-stream video decoding (NVDEC) and encoding (NVENC), ensuring efficient handling of multiple ultra-high-resolution video feeds.



Condor T5-IOX 3U VPX Specifications

Processor

NVIDIA® Jetson Thor™
NVIDIA IGX T5000 module

Interface

3U VPX
1.0" Pitch (Conduction Cooled)

CPU

14-core Arm® Neoverse-V3AE 64-bit
64KB + 64KB L1 Cache, 1MB L2 Cache per core
Shared 16MB L3 Cache
2.6GHz

Memory

128 GB LPDDR5X (8x 16GB)
256-bit Memory Interface
up to 273 GB/s Memory Bandwidth

Video Outputs

1x DisplayPort™ 1.4a over VPX

Video Inputs

4x 12G-SDI over VPX
Can interface with external PCIe DMA video capture cards

Storage

M.2 NVMe Storage (up to 1TB)

Operating Temperature (MIL-STD-810)

-40°C to 85°C (Rugged Conduction Cooled)

Shock (MIL-STD-810)

40 g

Power Consumption

Module: 40-130W ; Board Total: < 80W

SOSA Slot Profiles

SOSA Slot Profile: SLT3-PAY-1F1F2U1TU1T1U1T-14.2.16

IPMI

Dual IPMB
Tier 1 and Tier 2 Supported
Multiple temperature and voltage sensors

GPU

NVIDIA Blackwell architecture GPU
2,560 CUDA Cores
96 Tensor Cores

Networking

4x 25GbE (25GBASE-KR)

PCIe

x4 Gen 5 PCIe

Other Features

Multi-Instance GPU (MIG)

I/O

1x USB3.2
1x USB2.0
2x RS-232 Serial

Vibration (MIL-STD-810)

0.1 g²/Hz

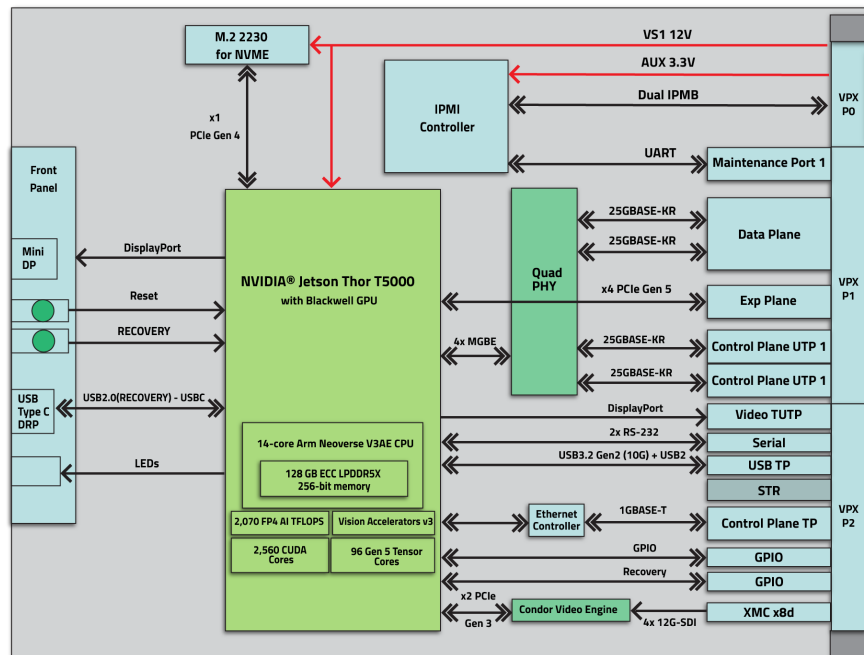
Humidity (MIL-STD-810)

95% Without Condensation

Weight

2.696 lbs (1223.1 g)

Condor T5-IOX 3U VPX Block Diagram



Slot Profile : SLT3-PAY-1F1F2U1TU1T1U1T-14.2.16